

REMARKS

The Office Action dated March 31, 2006, has been received and carefully considered. In this response, claims 1, 4, 6, 8-19, 21-27, and 31-36 have been amended. Entry of the amendments to claims 1, 4, 6, 8-19, 21-27, and 31-36 is respectfully requested. Reconsideration of the outstanding objections/rejections in the present application is also respectfully requested based on the following remarks.

I. THE OBJECTION TO THE DRAWINGS

On pages 2-3 of the Office Action, the drawings were objected to under 37 CFR § 1.83(a) for failing to show every claimed feature.

The Examiner asserts that the drawings fail to show the structural connections of claims 1 and 18 and the "subscriber signal port" of claims 8 and 11.

Applicants have amended claims 1, 8, 11, and 18 in such a manner that respectfully causes this rejection to be moot. Alternatively, Applicants respectfully submit that the structural connections are inherent as discussed below, and the drawings show a "subscriber service port 45" in Figure 3.

In view of the foregoing, it is respectfully requested that the aforementioned objection to the drawings be withdrawn.

II. THE ENABLEMENT REJECTION OF CLAIMS 1-30

On pages 3-4 of the Office Action, claims 1-30 were rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to make and/or use the invention. This rejection is hereby respectfully traversed.

The Examiner asserts that the specification fails to provide enabling disclosure for claims 1, 8, and 18.

Applicants have amended claims 1, 8, and 18 in such a manner that respectfully causes this rejection to be moot. Alternatively, Applicants respectfully submit that, as stated in MPEP § 2163.02, the fundamental factual inquiry is whether a claim defines an invention that is clearly conveyed to those skilled in the art at the time the application was filed. The subject matter of the claim need not be described literally (i.e., using the same terms or in *haec verba*) in order for the disclosure to satisfy the description requirement. Further, as stated in MPEP § 216.07(a), by disclosing in a patent application a device that inherently performs a function or has a property, operates according to a theory, or has an advantage, a patent application necessarily discloses that function, theory

or advantage, even though it says nothing explicit concerning it.

In view of the foregoing, it is respectfully requested that the aforementioned enablement rejection of claims 1-30 be withdrawn.

III. THE INDEFINITENESS REJECTION OF CLAIM 12

On pages 4-5 of the Office Action, claim 12 were rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the invention. This rejection is hereby respectfully traversed.

The Examiner asserts that the term multiple single mode, single fiber, transceivers is unclear.

Applicants respectfully submit that such a term is clear to one of ordinary skill in the art as multiple transceivers capable of operating with single mode fibers. Such a term is supported in the specification at page 13, lines 30-31.

In view of the foregoing, it is respectfully requested that the aforementioned indefiniteness rejection of claim 12 be withdrawn.

IV. THE OBVIOUSNESS REJECTION OF CLAIMS 1-17

On pages 5-10 of the Office Action, claims 1-17 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tomich (U.S. Patent No. 5,778,116). This rejection is hereby respectfully traversed with amendment.

Under 35 U.S.C. § 103, the Patent Office bears the burden of establishing a prima facie case of obviousness. In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). The Patent Office can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of references. Id. Obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). That is, under 35 U.S.C. § 103, teachings of references can be combined only if there is some suggestion or motivation to do so. Id. However, the motivation cannot come from the applicant's invention itself. In re Oetiker, 977 F.2d 1443, 1447, 24 USPQ2d 1443, 1446 (Fed. Cir. 1992). Rather, there must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the art would make the combination. Id.

Regarding claim 1, the Examiner asserts that Tomich discloses the claimed invention. However, Applicants respectfully submit that Tomich fails to disclose, or even suggest, a modular switch comprising: dual optical trunking modules coupled to transmit optical signals to and receive optical signals from a service provider, wherein the dual optical trunking modules include a first optical trunking module and a second optical trunking module; dual optical switch fabric modules coupled to transmit optical signals to and receive optical signals from the dual optical trunking modules, wherein the dual optical switch fabric modules include a first optical switch fabric module and a second optical switch fabric module; and a plurality of subscriber service modules coupled to transmit optical signals to and receive optical signals from the dual optical switch fabric modules and a plurality of subscribers, wherein each of the plurality of subscriber service modules provides subscriber services to respective ones of the plurality of subscribers; wherein the dual optical trunking modules and the dual optical switch fabric modules provide redundancy by routing optical signals through the first optical trunking module to both the first optical switch fabric module and the second optical switch fabric module and routing signals through the second optical trunking module to both the first

optical switch fabric module and the second optical switch fabric module; wherein the first optical trunking module transmits and receives optical signals to and from the service provider in a first physical direction along an optical ring network and the second optical trunking module transmits and receives optical signals to and from the service provider in a second physical direction, opposite the first physical direction, along the optical ring network, as presently claimed. Specifically, Tomich fails to disclose, or even suggest, dual optical trunking modules coupled to transmit optical signals to and receive optical signals from a service provider. The Examiner asserts that the optical fibers 206 and 208 of Tomich teach the claimed dual optical trunking modules. However, as any skilled artisan would understand, and as specifically disclosed throughout the specification, optical trunking comprises more than just transporting optical signals over optical fibers. Tomich also fails to disclose, or even suggest, dual optical switch fabric modules coupled to transmit optical signals to and receive optical signals from the dual optical trunking modules, wherein the dual optical switch fabric modules include a first optical switch fabric module and a second optical switch fabric module, as presently claimed. Tomich only discloses a single optical switch assembly 312. Tomich further

fails to disclose, or even suggest, a plurality of subscriber service modules coupled to transmit optical signals to and receive optical signals from the dual optical switch fabric modules and a plurality of subscribers, wherein each of the plurality of subscriber service modules provides subscriber services to respective ones of the plurality of subscribers, as presently claimed. Tomich does not disclose subscriber service modules in any manner. Tomich still further fails to disclose, or even suggest, dual optical trunking modules and dual optical switch fabric modules provide that provide redundancy by routing optical signals through the first optical trunking module to both the first optical switch fabric module and the second optical switch fabric module and routing signals through the second optical trunking module to both the first optical switch fabric module and the second optical switch fabric module, as presently claimed. Tomich still further fails to disclose, or even suggest, that the first optical trunking module transmits and receives optical signals to and from the service provider in a first physical direction along an optical ring network and the second optical trunking module transmits and receives optical signals to and from the service provider in a second physical direction, opposite the first physical direction, along the

optical ring network, as presently claimed. Accordingly, is it respectfully submitted that claim 1 is allowable over Tomich.

Regarding claims 2-17, these claims are dependent upon independent claim 1. Thus, since independent claim 1 should be allowable as discussed above, claims 2-17 should also be allowable at least by virtue of their dependency on independent claim 1. Moreover, these claims recite additional features which are not disclosed, or even suggested, by the cited references taken either alone or in combination.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claims 1-17 be withdrawn.

V. THE OBVIOUSNESS REJECTION OF CLAIMS 1-17, 31, AND 33-36

On pages 10-20 of the Office Action, claims 1-17, 31, and 33-36 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bears (U.S. Patent No. 5,349,457) in view of Ishakawa (U.S. Patent No. 5,936,753). This rejection is hereby respectfully traversed with amendment.

Regarding claim 1, the Examiner asserts that the combination of Bears and Ishakawa discloses the claimed invention. However, Applicants respectfully submit that Bears and Ishakawa, either alone or in combination, fail to disclose,

or even suggest, a modular switch comprising: dual optical trunking modules coupled to transmit optical signals to and receive optical signals from a service provider, wherein the dual optical trunking modules include a first optical trunking module and a second optical trunking module; dual optical switch fabric modules coupled to transmit optical signals to and receive optical signals from the dual optical trunking modules, wherein the dual optical switch fabric modules include a first optical switch fabric module and a second optical switch fabric module; and a plurality of subscriber service modules coupled to transmit optical signals to and receive optical signals from the dual optical switch fabric modules and a plurality of subscribers, wherein each of the plurality of subscriber service modules provides subscriber services to respective ones of the plurality of subscribers; wherein the dual optical trunking modules and the dual optical switch fabric modules provide redundancy by routing optical signals through the first optical trunking module to both the first optical switch fabric module and the second optical switch fabric module and routing signals through the second optical trunking module to both the first optical switch fabric module and the second optical switch fabric module; wherein the first optical trunking module transmits and receives optical signals to and from the service

provider in a first physical direction along an optical ring network and the second optical trunking module transmits and receives optical signals to and from the service provider in a second physical direction, opposite the first physical direction, along the optical ring network, as presently claimed. Specifically, Bears and Ishakawa, either alone or in combination, fail to disclose, or even suggest, a plurality of subscriber service modules coupled to transmit optical signals to and receive optical signals from the dual optical switch fabric modules and a plurality of subscribers, wherein each of the plurality of subscriber service modules provides subscriber services to respective ones of the plurality of subscribers, as presently claimed. Indeed, Bears and Ishakawa, either alone or in combination, fail to disclose, or even suggest, subscriber service modules in any manner. Bears and Ishakawa, either alone or in combination, also fail to disclose, or even suggest, dual optical trunking modules and dual optical switch fabric modules provide that provide redundancy by routing optical signals through the first optical trunking module to both the first optical switch fabric module and the second optical switch fabric module and routing signals through the second optical trunking module to both the first optical switch fabric module and the second optical switch fabric module, as presently

claimed. Bears and Ishakawa, either alone or in combination, further fail to disclose, or even suggest, that the first optical trunking module transmits and receives optical signals to and from the service provider in a first physical direction along an optical ring network and the second optical trunking module transmits and receives optical signals to and from the service provider in a second physical direction, opposite the first physical direction, along the optical ring network, as presently claimed. Accordingly, is it respectfully submitted that claim 1 is allowable over Bears and Ishakawa, either alone or in combination.

Regarding claims 2-17, these claims are dependent upon independent claim 1. Thus, since independent claim 1 should be allowable as discussed above, claims 2-17 should also be allowable at least by virtue of their dependency on independent claim 1. Moreover, these claims recite additional features which are not disclosed, or even suggested, by the cited references taken either alone or in combination.

Regarding claim 31, this claim recites subject matter related to claim 1. Thus, the arguments set forth above with respect to claim 1 are equally applicable to claim 31. Accordingly, is it respectfully submitted that claim 31 is allowable over Bears and Ishakawa, either alone or in

combination, for the same reasons as set forth above with respect to claim 1.

Regarding claims 33-36, these claims are dependent upon independent claim 31. Thus, since independent claim 31 should be allowable as discussed above, claims 33-36 should also be allowable at least by virtue of their dependency on independent claim 31. Moreover, these claims recite additional features which are not disclosed, or even suggested, by the cited references taken either alone or in combination.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claims 1-17, 31, and 33-36 be withdrawn.

VI. THE OBVIOUSNESS REJECTION OF CLAIMS 18-30 AND 32

On pages 10-20 of the Office Action, claims 18-30 and 32 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Bears (U.S. Patent No. 5,349,457) in view of Kimbrough et al. (U.S. Patent No. 6,362,908). This rejection is hereby respectfully traversed with amendment.

Regarding claim 18, the Examiner asserts that the combination of Bears and Kimbrough et al. discloses the claimed invention. However, Applicants respectfully submit that Bears and Kimbrough et al., either alone or in combination, fail to

disclose, or even suggest, an optical network comprising: a router coupled to route optical signals; an environmentally hardened modular switch coupled to the router, the modular switch receiving optical signals from and transmitting optical signals to the router; and at least one fiber access box at a destination coupled to the modular switch, each fiber access box receiving optical signals from and transmitting optical signals to the modular switch; wherein the modular switch comprises: dual optical trunking modules coupled to transmit optical signals to and receive optical signals from a service provider via the router, the dual optical trunking modules including a first optical trunking module and a second optical trunking module; dual optical switch fabric modules coupled to transmit optical signals to and receive optical signals from the dual optical trunking modules, the dual optical switch fabric modules including a first optical switch fabric module and a second optical switch fabric module; and a plurality of subscriber service modules coupled to transmit optical signals to and receive optical signals from the dual optical switch fabric modules and the at least one fiber access box, each of the plurality of subscriber service modules for providing subscriber services to respective ones of a plurality of subscribers; wherein the dual optical trunking modules and the dual optical

switch fabric modules provide redundancy by routing optical signals through the first optical trunking module to both the first optical switch fabric module and the second optical switch fabric module and routing signals through the second optical trunking module to both the first optical switch fabric module and the second optical switch fabric module; wherein the first optical trunking module transmits and receives optical signals to and from the service provider in a first physical direction along an optical ring network and the second optical trunking module transmits and receives optical signals to and from the service provider in a second physical direction, opposite the first physical direction, along the optical ring network, as presently claimed. Specifically, Bears and Kimbrough et al., either alone or in combination, fail to disclose, or even suggest, a plurality of subscriber service modules coupled to transmit optical signals to and receive optical signals from the dual optical switch fabric modules and a plurality of subscribers, wherein each of the plurality of subscriber service modules provides subscriber services to respective ones of the plurality of subscribers, as presently claimed. Indeed, Bears and Kimbrough et al., either alone or in combination, fail to disclose, or even suggest, subscriber service modules in any manner. Bears and Kimbrough et al., either alone or in

combination, also fail to disclose, or even suggest, dual optical trunking modules and dual optical switch fabric modules provide that provide redundancy by routing optical signals through the first optical trunking module to both the first optical switch fabric module and the second optical switch fabric module and routing signals through the second optical trunking module to both the first optical switch fabric module and the second optical switch fabric module, as presently claimed. Bears and Kimbrough et al., either alone or in combination, further fail to disclose, or even suggest, that the first optical trunking module transmits and receives optical signals to and from the service provider in a first physical direction along an optical ring network and the second optical trunking module transmits and receives optical signals to and from the service provider in a second physical direction, opposite the first physical direction, along the optical ring network, as presently claimed. Accordingly, is it respectfully submitted that claim 18 is allowable over Bears and Kimbrough et al., either alone or in combination.

Regarding claims 19-30, these claims are dependent upon independent claim 18. Thus, since independent claim 18 should be allowable as discussed above, claims 19-30 should also be allowable at least by virtue of their dependency on independent

claim 18. Moreover, these claims recite additional features which are not disclosed, or even suggested, by the cited references taken either alone or in combination.

Regarding claim 32, this claim recites subject matter related to claim 31. Thus, the arguments set forth above with respect to claim 31 are equally applicable to claim 32. Accordingly, it is respectfully submitted that claim 32 is allowable over Bears and Kimbrough et al., either alone or in combination, for the same reasons as set forth above with respect to claim 31.

In view of the foregoing, it is respectfully requested that the aforementioned obviousness rejection of claims 18-30 and 32 be withdrawn.

VII. CONCLUSION

In view of the foregoing, it is respectfully submitted that the present application is in condition for allowance, and an early indication of the same is courteously solicited. The Examiner is respectfully requested to contact the undersigned by telephone at the below listed telephone number, in order to expedite resolution of any issues and to expedite passage of the present application to issue, if any comments, questions, or suggestions arise in connection with the present application.

To the extent necessary, a petition for an extension of time under 37 CFR § 1.136 is hereby made.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-0206, and please credit any excess fees to the same deposit account.

Respectfully submitted,

Hunton & Williams LLP

By: 

Ozzie A. Farres

Registration No. 43,606

TEA/vrp

Hunton & Williams LLP
1900 K Street, N.W.
Washington, D.C. 20006-1109
Telephone: (202) 955-1500
Facsimile: (202) 778-2201

Date: June 30, 2006